

M.Sc.(Chem.) Semester - 2 (CBCS) Examination
April/May-2023 (OLD COURSE)
INORGANIC CHEMISTRY(CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q.1 Answer the following questions. (Any Seven) (14)

1. What are cationic exchangers? Give few examples.
2. Write a short note on toxicity of Mercury.
3. Draw the structure of diphenyl carbazone and Cupferron.
4. Give the ESR spectrum of Hydrogen atom.
5. Name the ultra-trace metals present in biological system.
6. Give the application of Salicylaldoxime.
7. Give the types of bonding in OMC.
8. Briefly discuss: Hapticity.
9. What is transport storage protein?
10. Why $B(CH_3)_3$ is an organometallic compound, but $B(OCH_3)_3$ is not?

Q.2 Answer the following questions. (Any Two) (14)

1. Write detail note on π -bonded OMC of Transition metals.
2. Discuss in the instrumentation of ESR.
3. Write a detail note on deficiency of metal ion with examples.

Q.3 Answer the following questions. (14)

1. Write a note separation of Cl-Br and Zn-Mg using ion exchange chromatography.
2. Discuss physical and chemical properties of η^2 -alkene complexes:
3. Write a note on Hyperfine splitting.

OR

Q.3 Answer the following questions.

1. Write detail note on π -bonded OMC of Transition metals.
2. The role of iodine in activity of thyroid hormones: write a detailed note.

Q.4 A. Answer the following questions. (Any Two) (14)

Discuss the application of following:

1. o-phenanthroline
2. α -nitroso-3-naphthol.
3. Pyragallol

B. Answer the following questions. (Any One)

1. Discuss the application of ion-exchangers.
2. Write note on determination of 'g' value.

Q.5 Answer the following questions. (any two) (14)

1. Discuss the interaction of spin motion in ESR spectrum.
2. Write a note on oxygen carriers-hemoglobin and myoglobin.
3. Discuss use of dithiozone and cupferron in inorganic analysis.
4. Write a note on metalloporphyrins.
